

**Subactivity: Marine Operations & Maintenance and Aviation Operations**  
**Line Item: Marine Operations & Maintenance**

**GOAL STATEMENT:**

To operate a fleet of vessels that are appropriately designed, equipped, and outfitted to safely collect hydrographic and coastal-assessment data; conduct fishery scientific and survey operations; conduct sustained oceanographic and atmospheric data collection in various marine environments; and to collect data through outsourced ship support. The vessels have the unique operating capabilities to: 1) provide the measurements and observations needed to protect, restore, and manage the ecosystem; 2) understand climate variability and change; 3) provide weather and water information; and 4) support the nation's commerce by providing information for safe and efficient transportation. Marine Services' goals also include: 1) provide centralized management of NOAA's Commissioned Officer Corps; 2) provide centralized management of NOAA's operational diving program; 3) manage NOAA's Teacher at Sea program; 4) provide centralized guidance for ship and aircraft outsourcing; and 5) provide centralized guidance for NOAA's small-boat safety program.

**BASE DESCRIPTION:**

**Marine Services**

The objectives of this line item are to:

- Ensure the operational readiness and maximum capability of the NOAA fleet to support present and future at-sea requirements for NOAA programs.
- Provide properly trained personnel, fuel, stores, laboratory and deck equipment, and other scientific equipment necessary to meet user requirements and schedules.
- Develop, with the guidance of the Platform Allocation Council, which is comprised of NOAA's Deputy Assistant Administrators and the Director of OMAO, annual ship-time allocation schedules based on program requirements.
- Provide centralized management and coordination, scheduling, port services, operation procedures, and engineering support for the NOAA fleet.
- Safely operate the NOAA fleet, provide guidance and support for effective outsourcing, and outsource where appropriate.
- Train and qualify NOAA personnel for diving to ensure safe and effective operations.
- Train and certify NOAA Corps officers, crew, and scientists in at-sea safety requirements for their positions according to the Standards of Training, Certification and Watchkeeping for Seafarers and the International Maritime Organization conventions.
- Provide Commissioned Officers trained as engineers and scientists in NOAA program disciplines to provide mobile operational and other support.
- Provide oversight and support to enhance safety of NOAA's small-boat operations.

Marine Services' funding provides centralized outsourcing support and provides centralized management for NOAA's fleet of 21 active ships. Additionally, construction of the FSV 3 will be completed in FY 2007; however the ship will not be operational until early FY 2008. These NOAA vessels, ranging in length from 90 to 274 feet, conduct operations that support NOAA's programs in nautical charting, bathymetric mapping, fisheries research, resource assessment, marine environmental baseline assessment, coastal-ocean circulation, and oceanographic and atmospheric research. Using Marine Services' funds in FY 2007, operation of NOAA's vessels and outsourcing will provide approximately 4,650 operating days and 1,000 operating days, respectively to support NOAA's highest priority programs.

The Marine Operations Center (MOC), with the Atlantic and Pacific regional offices located in Norfolk, Virginia, and Seattle, Washington, respectively, and with a small support staff at the home port of most ships, provides regional fleet management, maintenance, stores, supplies, repair facilities, data-processing facilities, operational support, and administrative support for NOAA's ten East and Gulf Coast vessels and eleven West Coast vessels. NOAA vessels are staffed by NOAA Corps Commissioned Officers, Wage Marine employees, and General Schedule technicians. The vessels are deployed for multi-program or specialized use depending on the size, range, laboratory space, equipment, and accommodations necessary to meet requirements. The Class I and II vessels have the size, endurance, and equipment to conduct surveys and investigations in the deep ocean outward from the continental shelf or in remote areas such as Alaska and Antarctica. The smaller Class III, IV, and V vessels are designed for continental shelf and near-shore operations. The programs supported by ships are organizationally housed within NOAA's National Marine Fisheries Services (NMFS), Office of Oceanic and Atmospheric Research (OAR), National Ocean Service (NOS), and National Weather Service (NWS), with occasional support to other NOAA components.

The NOAA Corps supports the fleet and NOAA Line Offices as well. This line item funds the majority of the NOAA Corps payroll, but does not include contributions to Medicare eligible account which is mandated in the FY 2003 Defense Authorization Act, P.L. 107-314.

Marine Services funds also provide diver training, safety standards, certification, technical advice, a standardized equipment program, and the NOAA Diving Manual for NOAA's 400 divers who perform over 15,000 dives annually in support of NOAA's programs. In compliance with domestic and international maritime codes, Marine Services provides safe navigation training and certification to NOAA Corps officers and vessel crew members.

The NOAA Small Boat Safety Program within Marine Services reduces risk to and enhances safety of NOAA employees that operate or work in small boats. The program monitors or conducts small-boat inspections, facilitates small-boat activities by hosting workshops and sharing related information with Line Offices, and provides technical and engineering assistance to Line Offices concerning small boats.

Marine Services funds also support up to 30 teachers per year in the NOAA Teacher at Sea Program and the management of the program. As of FY 05, over 400 teachers have participated in the program. Teachers at the kindergarten through college level are able to work with NOAA scientists on the research vessels in support of NOAA programs.

NOAA Ship RONALD H. BROWN, a state-of-the-art Class I oceanographic and atmospheric research platform, is the largest vessel in the NOAA fleet. With its highly advanced instruments and sensors, RONALD H. BROWN travels worldwide supporting scientific studies to increase our understanding of the world's oceans and climate. Commissioned on July 19, 1997 in its home port of Charleston, South Carolina, RONALD H. BROWN has sailed in the Pacific, Atlantic, and Indian Oceans. The ship was named for a former Secretary of the Department of Commerce, Ronald H. Brown.

NOAA Ship RAINIER is a highly capable platform for conducting coastal hydrographic survey operations. The ship primarily operates in Alaskan coastal waters. It is equipped with an intermediate depth multi-beam swath survey system. RAINIER carries six aluminum survey launches equipped with multi-beam swath and single beam echo sounders and a hydrographic data acquisition system. She also has three small boats providing support to shore stations and dive operations.

NOAA Ship FAIRWEATHER is a hydrographic survey vessel that conducts hydrographic surveys in Alaskan coastal waters. The ship was originally commissioned by NOAA in 1968 and conducted hydrographic surveys until it was deactivated in 1989. It was reactivated in 2004 and is homeported in Ketchikan. The ship is equipped with the latest in hydrographic survey technology: multi-beam survey systems; high-speed, high-resolution side-scan sonar; and an on-board data-processing server.

NOAA Ship KA'IMIMOANA primarily supports the research programs of NOAA's Tropical Atmosphere-Ocean (TAO) Project. These programs are designed to improve our understanding of the role of the tropical ocean in modifying the world's climate. The ship deploys, recovers, and services deep sea surface and subsurface moorings that measure ocean currents, ocean temperatures, and atmospheric variables, throughout the equatorial Pacific Ocean. KA'IMIMOANA also deploys, recovers, and services Tsunami DART (Deep-ocean Assessment and Reporting of Tsunamis) moorings in the south Pacific. In addition to buoy measurements, which are transmitted in real time to the NOAA Pacific Marine Environmental Laboratory (PMEL) in Seattle, the ship measures upper ocean currents, surface salinity, carbon dioxide content, and takes upper air atmospheric soundings while underway. A census of barnacles and marine life that inhabit the recovered moorings and the periodic replacement of undersea hydrophone moorings used to locate undersea spreading centers and hydrothermal vents on the East Pacific Rise are also conducted on an ongoing basis.

NOAA Ship MILLER FREEMAN is a stern trawler capable of a wide range of biological and oceanographic operations. Her research and biological studies provide fisheries stock assessments, marine mammal population densities and ocean dynamics as related to biological production. The wide variety of acoustical instrumentation on MILLER FREEMAN is mounted such that the sensors lie beneath vessel-generated acoustic interference layers. She has a unique electronics laboratory dedicated to operation and analysis of the acoustical instrumentation. Her primary operating areas are the West Coast of the United States and Alaskan waters.

NOAA Ship ALBATROSS IV conducts fishery and living marine resource research in support of NOAA's National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC), Woods Hole Laboratory in Woods Hole, Massachusetts. The ship's normal operating area is the Gulf of Maine, Georges Bank, and the continental shelf and slope from Southern New England to Cape Hatteras, North Carolina. Typical assessment work includes groundfish surveys and Ecosystem Monitoring surveys. Research conducted from ALBATROSS IV provides an understanding of the physical and biological processes that control year-class strength of key economical fish, shellfish and zooplankton species.

NOAA Ship McARTHUR II is a multiple-disciplinary platform capable of a broad range of missions. She conducts oceanographic research and assessments, throughout the eastern Pacific, including the U.S. West Coast and Central and South America. McARTHUR II is involved in studies in several of the National Marine Sanctuaries on the West Coast of the United States. McARTHUR II engages in measurements of chemical, meteorological, and biological sampling for several large-scale programs within NOAA.

NOAA Ship OREGON II conducts fishery and living marine resource studies in support of the research of the National Marine Fisheries Service, Pascagoula Laboratory in Pascagoula, Mississippi. The ship collects fish and crustacean specimens using trawls and benthic longlines and fish larvae and eggs and collects plankton using plankton nets and surface and midwater larval nets. The OREGON II normally operates in the Gulf of Mexico, the Atlantic Ocean, and the Caribbean Sea.

NOAA Ship DAVID STARR JORDAN conducts physical oceanography and biological studies which provide fisheries stock assessments, marine mammal population densities and ocean dynamics as related to biological production for the National Marine Fisheries Service (NMFS) La Jolla Laboratory. She is an integral part of the marine mammal surveys conducted by the Protected Resources Division of NMFS Southwest Fisheries Science Center. These surveys include the Stenella Abundance Research Project (STAR), a three-year study designed to assess the status of dolphin stocks that have been taken as incidental catch by the yellowfin tuna purse-seine fishery in the eastern tropical Pacific. She operates on the West Coast of the United States and eastern tropical Pacific and was named after Dr. David Starr Jordan.

NOAA Ship THOMAS JEFFERSON, formerly Navy ship LITTLEHALES (TAGS-52), is one of a fleet of research and survey vessels used by NOAA to improve our understanding of the marine environment. The ship is homeported in Norfolk, Virginia, and primarily operates along the Atlantic and Gulf coasts, including Puerto Rico and the U.S. Virgin Islands. The primary mission of the THOMAS JEFFERSON is to conduct hydrographic surveys for updating NOAA's nautical charts. These data are acquired by THOMAS JEFFERSON and its two survey launches equipped with specialized echo sounders, multibeam sonars, and side-scan sonars.

NOAA Ship GORDON GUNTER conducts fishery and marine resource research supporting NOAA's National Marine Fisheries Service, Pascagoula Laboratory in Pascagoula, Mississippi. The ship collects fish and crustacean specimens using trawls and benthic longlines and fish larvae and eggs and collects plankton using plankton nets and surface and midwater larval nets. GORDON GUNTER normally operates in the Gulf of Mexico and Caribbean Sea. The ship was originally built as the USNS RELENTLESS (T-AGOS 18) in 1989 by Halter Marine in Moss Point, Mississippi. RELENTLESS was operated by the Military Sealift Command as an Ocean Surveillance Ship until her transfer to NOAA on March 17, 1993.

NOAA Ship OSCAR ELTON SETTE is a multiple-disciplinary platform capable of a broad range of missions. She primarily conducts fishery and marine resource research supporting NOAA's National Marine Fisheries Service, Honolulu Laboratory in Honolulu, Hawaii. SETTE conducts fisheries assessment surveys, physical and chemical oceanography, marine mammal projects, and coral reef research. She collects fish and crustacean specimens using bottom trawls, longlines and fish traps. Plankton, fish larvae and eggs are also collected with plankton nets and surface and mid-water larval nets. SETTE normally operates in the Northwestern Hawaiian Islands and throughout the central and western Pacific.

NOAA Ship DELAWARE II conducts fishery and living marine resource research in support of NOAA's National Marine Fisheries Service, Northeast Fisheries Science Center's Woods Hole Laboratory in Woods Hole, MA. The ship's normal operating area is the Gulf of Maine, Georges Bank, and the continental shelf and slope from Southern New England to Cape Hatteras, NC. Typical assessment work includes groundfish assessment surveys and Marine Resources Monitoring, Assessment and Prediction surveys. Research conducted from the DELAWARE II provides an understanding of the physical and biological processes that control year-class strength of key economical fish species.

NOAA Ship JOHN N. COBB conducts fishery and living marine resource research in Southeast Alaska and in U.S. Pacific coastal waters, supporting the research of the National Marine Fisheries Service (NMFS) Auke Bay Laboratory in Juneau, Alaska. COBB collects fish and crustacean specimens using trawls and benthic longlines, fish larvae and eggs and collects plankton using plankton nets and surface and mid-water larval nets. COBB is capable of conducting bottom trawls down to depths of over 300 fathoms. Marine mammal surveys of whales, porpoise, and seals are also conducted aboard by scientists from the National Marine Mammal Laboratory in Seattle, Washington.

NOAA Ship RUDE performs inshore hydrographic surveys along the northeast coast in support of NOAA's nautical charting mission, specializing in the location and accurate positioning of submerged hazards to navigation. RUDE is equipped with some of the most technically advanced hydrographic and navigation equipment available, including differential global positioning systems, a multibeam bathymetric sonar system, and side-scan sonar. Aside from hydrographic surveying, RUDE is called upon to assist the U.S. Coast Guard and Navy in search, rescue, and recovery operations. The RUDE located the TWA flight 800 wreckage off of Moriches, NY in 1996, and more recently, located John F. Kennedy Jr.'s plane wreckage off Martha's Vineyard, MA.

NOAA Ship NANCY FOSTER was originally built as a Navy yard torpedo test (YTT) craft. The Navy transferred the vessel to NOAA in 2001, and NOAA outfitted the ship to conduct coastal research along the U.S. Atlantic and Gulf coasts. NANCY FOSTER continues the work of its predecessor, FERREL, in support of NOAA's Office of Ocean and Coastal Resource Management and the National Sea Grant College Program. Operations include the characterization of various habitats in NOAA's National Marine Sanctuaries, pollution assessment, and studies to improve understanding of the connection between marine habitats and estuaries.

NOAA Ship HI'IALAKAI, Hawaiian for "embracing pathways to the sea" and "guiding leaders of the seas", conducts coral reef ecosystem mapping, bio-analysis assessments, and coral reef health and fish stock studies. Scuba diving operations play a major role in scientific operations aboard HI'IALAKAI, and she is well suited to support both shallow and deep-water dive projects. The ship is equipped to carry two to five small work boats for transporting divers to and from working areas, an extensive dive locker to store scientific gear and equipment, and air compressors to fill scuba cylinders. The ship is also outfitted with a three-person, double-lock recompression chamber as an added safety margin for dive-intensive missions in remote regions.

NOAA Ship OSCAR DYSON is the first of four new fisheries survey ships built by NOAA. She is a stern trawler designed with state-of-the-art research ship capabilities. OSCAR DYSON conducts a wide variety of fisheries and oceanographic research. Foremost among her capabilities is acoustic quieting technology that allows sampling of fish populations without altering their behavior.

The ship's primary objective is to study and monitor Alaskan pollock and other fisheries in the Bering Sea and Gulf of Alaska. OSCAR DYSON also observes weather, sea state, and other environmental conditions, conducts habitat assessments, and surveys marine mammal and marine bird populations.

NOAA Ship HENRY B. BIGELOW is under construction at VT Halter Marine, in Pascagoula, Mississippi. HENRY B. BIGELOW is the second of four new Class II fisheries survey ships to be built by NOAA. The ship will eventually replace ALBATROSS IV and continue her fishery and living marine resource research mission.

NOAA Ship CAPABLE (TAGOS-16)/OKEANOS EXPLORER will support NOAA's Ocean Exploration program. After conversion, the 224-foot former Navy ship will be NOAA's only ship with a dedicated science-class, deep-ocean robot, or remotely-operated vehicle (ROV). The ship will carry 10,000 meters of umbilical cable, weighing more than 22,000 pounds. Up to 6,000 meters will be used to lower a tow sled close to the ocean floor. Another 30 meters of separate cable will connect the tow sled with a mobile ROV equipped with a robust sampling capability. The long umbilical cable from the ship to tow sled will funnel commands to and collect data and images from the ROV. NOAA's ship for ocean exploration will also be equipped with a hull-mounted, state-of-the-art multibeam mapping sonar system as well as other sampling and surveying instrument systems, and the ship will offer scientists an ROV control center, a mapping lab, a technology center to process scientific data, and standard wet and dry labs.

Fisheries Survey Vessel 3 will be ready to sail in September 2007.

NOAA's fleet includes the ships listed below:

<b>Vessel</b>	<b>Length-Class</b>	<b>Mission</b>	<b>Home Port</b>	<b>Status</b>
RONALD H. BROWN	274 ft. - I	1,4	Charleston, SC	Active
RAINIER	231 ft. - II	3	Seattle, WA	Active
FAIRWEATHER	231 ft. - II	3	Ketchikan, AK	Active
KA'IMIMOANA	224 ft. - III	1	Honolulu, HI	Active
MILLER FREEMAN	215 ft. - II	1,2,4	Seattle, WA	Active
ALBATROSS IV	187 ft. - III	2	Woods Hole, MA	Active
MCARTHUR II	224 ft. - III	1,2,4	Seattle, WA	Active
OREGON II	175 ft. - III	2	Pascagoula, MS	Active
THOMAS JEFFERSON	208 ft. - II	3	Norfolk, VA	Active
DAVID STARR JORDAN	171 ft. - IV	2	San Diego, CA	Active
GORDON GUNTER	224 ft. - III	2	Pascagoula, MS	Active
OSCAR ELTON SETTE	224 ft. - III	2	Honolulu, HI	Active
DELAWARE II	155 ft. - IV	2	Woods Hole, MA	Active
JOHN N. COBB	93 ft. - V	2	Seattle, WA	Active
RUDE	90 ft. - V	3	Norfolk, VA	Active
NANCY FOSTER	187ft. - III	14	Charleston, SC	Active
HI'IALAKAI	224 ft. - III	1,4	Honolulu, HA	Active
OSCAR DYSON	208 ft. - II	2	Kodiak, AK	Active
HENRY B. BIGELOW	208 ft. - II	2	TBD	Active
CAPABLE/OKEANOS	224 ft. - III	1	TBD	Active
EXPLORER				
FSV 3				

Mission:

- 1= Oceanographic Research
- 2 = Fisheries Research
- 3 = Hydrographic Surveys
- 4 = Environmental Assessment

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

**PROPOSED LEGISLATION:**

None.



### SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Marine Operations & Maintenance					
Data Acquisition Base	73,924	94,007	88,167	88,967	800
NANCY FOSTER	542	-	-	-	-
HI'I ALAKAI	4,533	-	-	-	-
OSCAR DYSON and FAIRWEATHER	10,054	-	-	-	-
CAPABLE	18,000	-	-	-	-
Operating Differential for NOAA Ships	-	-	-	4,500	4,500
UNOLS	1,478	-	10	10	-
OE and NOAA Corps Pay Differential	1,971	1,479	-	-	-
Subtotal: Marine Services	110,502	95,486	88,177	93,477	5,300
<b>TOTAL</b>	<b>110,502</b>	<b>95,486</b>	<b>88,177</b>	<b>93,477</b>	<b>5,300</b>
<b>FTE</b>	<b>835</b>	<b>881</b>	<b>881</b>	<b>888</b>	<b>7</b>

Note: The dollars in this table represent budget authority.

### PROGRAM CHANGES FOR FY 2007:

NOAA requests a net increase in this subactivity of 7 FTE and \$5,300,000 for a total of 888 FTE and \$93,477,000 to promote maritime crew safety and rotation, and to provide operations and maintenance for several of NOAA's newer ships.

**Maritime Crew Safety and Rotation (0 FTE and \$800,000):** NOAA requests an increase of 0 FTE and \$800,000 for maritime crew safety and rotation. The amount will enable NOAA to enhance safety aboard NOAA vessels. As "public vessels", NOAA ships are not explicitly required to meet International Maritime Organization (IMO) Requirements for safe operation of ships; however, NOAA follows the USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR (NVIC) NO. 5-99: GUIDANCE REGARDING VOLUNTARY COMPLIANCE WITH THE INTERNATIONAL MANAGEMENT CODE FOR THE SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION (INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE). Compliance with Safety of Life at Sea (SOLAS) conventions will prevent NOAA ships from being potentially detained in foreign ports because of lack of complete certifications and will enable NOAA vessels to meet the intent of industry standards and regulations.

ISM/STCW has three elements of IMO Compliance: Standards of Training, Certification and Watchkeeping (STCW), ISM Compliance with External Audit, and Regulatory Safety Equipment. The average NOAA ship requires approximately 3,500 hours of training in order for its crew to hold the appropriate STCW certificates. In FY 2004, the NOAA fleet expanded from 15 to 18 active ships. By FY 2007, the NOAA fleet will have expanded to 20 active ships. Seagoing positions will have expanded from approximately 350 at the start of FY 2004 to approximately 485 by FY 2007. This represents approximately a 33% increase in the number of ships and a 39% increase in the number of seagoing positions. Factoring in attrition rates of approximately 25% for wage mariners, initial minimum training needs are more than doubled. In addition, most training and certifications are for a fixed time period and must be renewed anywhere from every year to every five years. This results in ongoing training and certification requirements.

The current attrition rate of 25% for NOAA wage mariners does not account for absences due to leave taking or for medical reasons (employee not fit for sea duty (NFFD) or temporarily not fit for duty (TNFFD)): personnel in the TNFFD or NFFD status may return to the ship in only a few days, or they may take up to a year or more to resolve before they are returned to the ship or found permanently not fit for duty (PNFFD) and retired.

Attrition rates are higher on ships that have more arduous schedules (i.e., more days at sea or longer cruises). Due to the high attrition rate and maritime safety standards, NOAA has had to delay sailing various ships until enough crewmembers could be redeployed to those particular vessels, thereby having a negative effect upon ship operating days available to the programs. Due to an increase in the number of days at sea and the lack of adequate crew rotation, crew members are forced to stay at sea longer compared to other maritime organizations such as Military Sealift Command and University National Oceanographic Laboratory Systems (UNOLS). This increased operational tempo (OpTempo) for the wage mariners causes them to work to their maximum physical potential, increasing the potential for safety-related accidents on board NOAA vessels. Furthermore, longer schedules at sea have handicapped NOAA's ability to recruit and retain maritime workers because they can work fewer days at sea elsewhere for greater pay. Lack of adequate crew rotation has significantly hampered adequate staffing of NOAA ships.

The effect of understaffing on a NOAA vessel is that only a few of the approximately 70 ship departments are staffed to the point where they can afford to lose more than one employee. Any loss of personnel, whether it is through attrition, medical emergency, or leave, requires that an alternate be provided to the ship to meet the safe manning level. The number of personnel authorized in each of the complements for the NOAA ships are what could be described by the U.S. Coast Guard as a safe manning level. The number of berths aboard a ship is often a limiting factor on the number of personnel that can sail on a ship. Each of the ships is staffed with personnel who are skilled in maritime disciplines and perform functions in deck, engineering, steward, and survey departments.

### **Statement of Need**

The principal intent of crew safety-training and rotation is to provide sufficient manpower in order to safely navigate; to conduct safe operations; to respond to potential emergencies (fire, accidents, etc.); and to provide adequate maintenance for the NOAA Fleet. In accordance with STCW standards, all persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch must receive a minimum of 10 hours of rest in any 24-hour period. Requiring the crew to work at this pace over a period of several weeks at a time at sea leads to fatigue and safety concerns. Attrition rates currently average 25% for wage marine personnel that serve aboard NOAA ships. For ships that have a more arduous (more days at sea or longer cruises), the rates are even higher.

A recent survey of wage marine personnel clearly indicates that the major concerns among wage marine personnel are pay scales and the limited amount of time to be with their families. Management's plan would introduce additional rotational personnel into the staffing structure to provide increased opportunities for leave taking aboard all NOAA ships along with initiating a prototype "blue/gold" crew rotation for each of NOAA's three primary, seagoing acquisition of data programs (hydrographic surveys, fisheries, and ocean and coastal research programs).

This proposal represents a minimum requirement and will provide an effective rotation for 5.3 ships. Because NOAA's fleet is experiencing a high turnover rate, the plan is to use these positions throughout the fleet to improve time-off availability to as many personnel as possible, with the goal of stemming the departure of well-trained personnel.

### **Proposed Action**

A prototype "blue/gold" crew rotation will be established for each of NOAA's three primary, seagoing acquisition of data program (hydrographic surveys, fisheries, and ocean and coastal research). This initiative would also cover rotational requirements as a result of medical absences and other unexpected personal situations for the existing NOAA fleet. The goal of the program is to improve crew recruitment, retention, morale, training, professional skills, and safety throughout the NOAA fleet by limiting crew deployments to a target range of 200 - 210 operating days (days away from homeport) per year. The wage mariners will decrease the existing 25% attrition rate among wage marine personnel by providing opportunities to take leave, providing relief from arduous ship operations schedules. The wage mariners will help supplement the increase in additional leave days that wage mariners are expected to request while the ships are deployed.

### **Benefits**

NOAA follows the USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR (NVIC) NO. 5-99: GUIDANCE REGARDING VOLUNTARY COMPLIANCE WITH THE INTERNATIONAL MANAGEMENT CODE FOR THE SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION (INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE). Wage mariner and 8,400 hours of training will permit NOAA to comply with SOLAS requirements and to reduce fatigue and lessen risk among the existing personnel. Compliance with SOLAS will prevent NOAA ships from being potentially detained in foreign ports because of lack of complete certifications and will enable NOAA vessels to meet the intent of industry standards and regulations. The augmentation personnel will allow the NOAA Fleet to better meet planned missions and to meet annual sea-day requirements.

### Performance Goals and Measurement Data

This increase will support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth’s resources to promote environmental needs.” Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.

<b>Performance Goal: Mission Support</b> Maritime Crew Safety and Rotation	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>
STCW Training Without Increase	9,900 hours	9,900 hours	9,900 hours	9,900 hours	9,900 hours	9,900 hours
STCW Training With Increase	18,300 hours	18,300 hours	18,300 hours	18,300 hours	18,300 hours	18,300 hours
Crew Attrition Without Increase	25%	25%	25%	25%	25%	25%
Crew Attrition With Increase	25%	25%	23%	23%	23%	23%

**Operations for NOAA Vessels (+0 FTE and \$4,100,000):** NOAA requests an increase of 0 FTEs and \$4,100,000 for the additional operational needs of NOAA’s new vessels. These ships are newer or more capable replacements to NOAA’s fleet over the last two years and have fuel, supply, and crew needs that cannot be absorbed in NOAA’s current budget. An associated request of \$2,893,000 within the Fleet Planning and Maintenance budget line, addresses the differential in maintenance costs, for a total increase of \$6,993,000 for operations and maintenance for the new ships.

The needs for operational funding are listed below:

HI'IALAKAI Operations	\$ 1,200,000
OSCAR DYSON Operations	\$ 1,700,000
McARTHUR II Operations	\$ 400,000
THOMAS JEFFERSON Operations	\$ 400,000
HENRY B. BIGELOW Operations	\$ <u>400,000</u>
	\$ 4,100,000

HI'IALAKAI is a surplus Navy T-AGOS vessel that was converted to support NOAA's Coral Reef Programs in the Hawaiian Islands. The ship also supports the National Marine Sanctuary Program and is homeported in Honolulu.

### **Statement of Need**

HI'IALAKA, OSCAR DYSON, McARTHUR II, and THOMAS JEFFERSON are new additions to NOAA's fleet and were acquired over the last two years. These ships have higher fuel consumption and supply requirements. ALBATROSS IV is well beyond a vessel's normal life expectancy and cannot be expected to operate much beyond FY 2007 and therefore must be replaced. As the replacement vessel, BIGELOW will need to operate jointly with ALBATROSS IV to avoid introducing errors into fisheries stock estimates. To maintain the consistency and continuity of stock assessments time-series data, it is imperative to replace the capabilities of ALBATROSS IV with BIGELOW's technology that has been calibrated with the older vessel by performing side-by-side surveys. Time-series assessments form the very foundation of NMFS' stock assessment and fisheries management process. Failure to replace the existing fleet with calibrated platforms will result in the loss of this time series data. This will necessitate implementing precautionary approaches to fisheries management, perhaps reducing the allowable commercial and recreational take because of the lack of sufficient, scientifically valid assessment data. Collection of at-sea information on fisheries and marine mammals is necessary for the development of regulations governing commercial and recreational fishing activities to sustain fisheries.

### **Proposed Action**

Additional funding will enable NOAA to operate HI'IALAKA and OSCAR DYSON for a full year. NOAA also will be able to operate McARTHUR II and THOMAS JEFFERSON, which are larger and more expensive to operate than the vessels they are replacing. HENRY B. BIGELOW and ALBATROSS IV will be operated side-by-side on annual stock-assessment cruises to calibrate the new vessel with the time-series stock data collected for many years with ALBATROSS IV.

## **Benefits**

NOAA will be able to operate HI'IALAKA and OSCAR DYSON for a full year. These vessels are larger and far more capable than the ships they will replace. Although they are somewhat more expensive to operate on a day-to-day basis, they will provide data at a reduced unit cost, and also avoid large overhaul costs incurred by the older ships they are replacing. Implementing advanced technologies incorporated in FSVs will enable NOAA to collect the best scientifically valid assessment data. FSVs are acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions, including surveys using many different methods of fishing and physical and biological oceanography. BIGELOW will provide high-quality data necessary to establish allowable amounts of fish that can be taken commercially or recreationally. The science-based decisions from this data will have an economic impact on the participants in the fisheries and the coastal communities that derive benefits from commercial and recreational fisheries.

## **Performance Goals and Measurement Data**

This increase will support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth’s resources to promote environmental needs.” Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.

<b>Performance Goal: Supports All 5 NOAA Performance Goals</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>
HI'IALAKAI Without Increase	200 dry dock	100 partial-year funding	100 partial-year funding	100 partial-year funding	100 partial-year funding	100 partial-year funding
HI'IALAKAI With Increase	200 dry dock	100 partial-year funding	250	250	250	250
OSCAR DYSON Without Increase	220 dry dock	110 partial-year funding	110 partial-year funding	110 partial-year funding	110 partial-year funding	110 partial-year funding
OSCAR DYSON With Increase	220 dry dock	110 partial-year funding	250	250	250	250
McARTHUR II Without Increase	190 conversion	220	220	220	220	220
McARTHUR II With Increase	190 conversion	220	250	250	250	250
THOMAS JEFFERSON Without Increase	200 dry dock	215	215	215	215	215
THOMAS JEFFERSON With Increase	200 dry dock	215	235	235	235	235
HENRY B. BIGELOW Without Increase	N/A	N/A	175	220	220	220
HENRY B. BIGELOW With Increase	N/A	N/A	200	250	250	250

**Fisheries Survey Vessel 3 (FSV 3) Operations (+7 FTE and \$400,000):** NOAA requests 7 FTE and \$400,000 for first-year operation of NOAA's third vessel in a four-vessel construction contract. The funds would permit NOAA to fill essential crew positions. These essential crewmembers must be in place and on board during tests and trials prior to acceptance of the ship in September, 2007, in order to work with the shipyard contractor on testing and troubleshooting, to acquire advance training and to hire the balance of the crew later.

An associated request of \$100,000, within the Fleet Planning and Maintenance budget line, addresses FSV 3's first-year maintenance costs, for a total request of \$500,000 for operations and maintenance in FY 2007. NOAA also is proposing an adjustment to base to transfer 26 FTEs to accompany this request.

FSV 3 will join the Alaska and North East FSVs in providing high-quality series surveys and data collection for the NOAA Fisheries Southeast Science Center Mississippi Laboratory. FSV 3 is scheduled to be delivered fourth quarter, FY 2007. The vessel will be homeported in Pascagoula, Mississippi.

### **Statement of Need**

Collection of at-sea information on fisheries and marine mammals is necessary for the development of regulations governing commercial and recreational fishing activities to sustain fisheries. FSV 3 will provide high-quality data necessary to establish allowable amounts of fish that can be taken commercially or recreationally. The science-based decisions from this data have an economic impact on the participants in the fisheries and the coastal communities that derive benefits from commercial and recreational fisheries.

### **Proposed Action**

NMOA proposes to hire and train crew during the ship's shakedown period in FY 2007, which is required before actual delivery of the ship.

### **Benefits**

FSVs are acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions, including surveys using many different methods of fishing and physical and biological oceanography.

### **Performance Goals and Measurement Data**

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.



<b>Performance Goal: Mission Support</b> Fisheries Survey Vessel 3 (FSV 3) — operating days	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>
Without Increase	N/A	N/A	N/A	N/A	N/A	N/A
With Increase	N/A	N/A	N/A	250	250	250

**Subactivity: Marine Operations & Maintenance and Aviation Operations**  
**Line Item: Fleet Planning and Maintenance**

**GOAL STATEMENT:**

To maintain NOAA's ships that support fisheries, survey, and oceanographic research and to plan for future ship-support capability to allow requirements for necessary data collection to be met effectively.

**BASE DESCRIPTION:**

The objectives of this line item are to:

- Design, develop, and engineer ship systems in order to ensure cost-effective operations and to meet user requirements and safety/legal regulations.
- Maintain existing ships to ensure their reliable operations.
- Provide general maintenance and repair of NOAA ships.

Fleet Maintenance and Planning is the second component of OMAO's Marine Operations and Maintenance, and the current program supports maintaining the reliability of the 21 active ships in NOAA's fleet. Adequate maintenance and repairs are required to allow NOAA ships to meet the rigorous demands of NOAA's programs. This funding will provide for general maintenance and repair of NOAA ships and for development of plans for future ship support.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

**PROPOSED LEGISLATION:**

None.

### SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Fleet Planning and Maintenance					
Fleet Planning and Maintenance	11,828	14,955	14,159	17,151	2,992
New Vessels (O Dyson, N Foster, Fairweather, Hi'ialakai	1,971	-	-	-	-
<b>TOTAL</b>	<b>13,799</b>	<b>14,955</b>	<b>14,159</b>	<b>17,151</b>	<b>2,992</b>
FTE	-	3	3	3	-

Note: The dollars in this table represent budget authority.

#### PROGRAM CHANGES FOR FY 2007:

NOAA requests a net increase in this subactivity of 0 FTE and \$2,992,000 for a total of 3 FTE and \$17,152,000 to provide maintenance for NOAA's ships.

**Maintenance for NOAA's Vessels (+0 FTE and \$2,893,000):** NOAA requests 0 FTE and \$2,893,000 for the additional needs of NOAA's vessels. These additional maintenance costs are associated with the increase in operating days provided for in an associated request for operational costs in the Marine Services budget line of \$4,100,000, for a total increase of \$6,993,000 for operations and maintenance for NOAA's ships.

The maintenance costs for ships are listed below:

HI'IALAKAI Maintenance	\$ 798,000
OSCAR DYSON Maintenance	\$ 798,000
McARTHUR II Maintenance	\$ 99,000
THOMAS JEFFERSON Maintenance	\$ 99,000
HENRY B. BIGELOW Maintenance	\$ 99,000
	<u>\$ 1,893,000</u>
Maintenance/Supplies for other NOAA vessels	<u>\$ 1,000,000</u>
<b>Total</b>	<b>\$ 2,893,000</b>

Descriptions of the new vessels are given in the Marine Operations section above.

**Fisheries Survey Vessel 3 (FSV 3) Maintenance (+0 FTEs and \$99,000):** NOAA requests 0 FTE and \$99,000 for first-year maintenance of NOAA's third vessel in a four-vessel construction contract. The vessel must be ready to sail in September, 2007, in order to provide a full year of operation in the following fiscal year. An associated request of \$400,000, within the Marine Operations budget line, addresses FSV 3's first-year operational costs, for a total request of \$499,000 for operations and maintenance in FY 2007. This FY 2007 request will cover costs for repairs, maintenance, and spare parts.

**Subactivity: Marine Operations & Maintenance and Aviation Operations**  
**Line Item: Aviation Operations**

**GOAL STATEMENT:**

Provide NOAA with modern, integrated aircraft observation platforms equipped with comprehensive data-collection systems in support of NOAA's missions to describe and predict changes in the Earth's environment, conserve and wisely manage the Nation's coastal and marine resources, and collect and process quality research and severe-weather data.

**BASE DESCRIPTION:**

**Aviation Operations**

The objectives of this subactivity are to:

- Provide NOAA with centralized aircraft management and coordination of a fleet of 12 aircraft. Acquire, modify, maintain, and operate NOAA's aircraft with a combined work force of specially trained civilians and officers of the NOAA Commissioned Corps. Operate the aircraft worldwide, over open ocean, mountains, and coastal wetlands to meet NOAA requirements.
- Maintain NOAA's aircraft at a high level of airworthiness and operating standards to ensure optimum safety along with standardization of systems. Operate the aircraft as public-use aircraft and subject to Federal Aviation Regulations with respect to the use of airspace, control of air traffic, and aircraft registration.
- Develop and operate prototype and operational, scientific-research instrumentation aboard aircraft; conduct applied research to ensure credibility and validity of data collected; recommend and implement specialized modifications, equipment or personnel for particular missions or projects.
- Develop, with the guidance of NOAA's Platform Allocation Council, which is comprised of NOAA's Deputy Assistant Administrators and the Director of OMAO, annual aircraft-time allocation schedules based on program requirements.
- Provide centralized expertise in aviation safety to locate and arrange safe commercial aviation services for NOAA programs using outsourced aircraft.

**Aircraft Services:** The Aircraft Operations Center (AOC), located on MacDill Air Force Base, in Tampa, Florida, ensures the availability and readiness of NOAA's uniquely configured aircraft with enhanced capabilities for research and data collection and required data processing. These flying platforms support the scientific community in research and data collection used in the support of NOAA's Strategic Goals.

OMAO also ensures that outsourced aviation operations are conducted safely by providing technical support and services to NOAA programs for chartered aircraft.

The Aircraft Services base will provide 1,975 flight hours in FY 2007. NOAA's two WP-3D hurricane hunters and G-IV high-altitude jet will be mission-ready with instruments and personnel for hurricane research, reconnaissance and surveillance the hurricane season from June 1 to December 1. The G-IV will also be mission-ready with instruments and personnel to collect data for West Coast winter-storm predictions from December 1 to April 1. The Turbo Commander and Shrike will be mission-ready with equipment and personnel for snow surveys needed for flood forecasts and water management from October 1 to May 1. In the FY 2006 Hurricane Supplemental, NOAA received funds to purchase and modify a third P-3 which will become operational in FY 2008.

NOAA's fleet includes the following NOAA aircraft:

- Lockheed WP-3D Orion - N42RF and N43RF - Workhorses of the NOAA aircraft fleet, the P-3's are among the most advanced atmospheric and environmental research platforms flying today. Their research and navigation systems provide detailed spatial and temporal observations of a wide range of atmospheric and oceanic parameters in support of observations of climate and global changes, severe-weather research, air-quality studies, air-sea interactions, and ocean dynamics. Instrumentation on the WP-3D's includes: C-Band, lower-fuselage radar; X-Band Doppler radar; dropwindsonde atmospheric profiling system; cloud-particle probes; satellite-data-transmission link; cloud physics system; and an aerosol-sampling system.
- Gulfstream G-IV SP - N49RF - NOAA's uniquely configured G-IV jet supports high-altitude research requirements, both for air-quality sampling and investigations of mesoscale features to improve severe-weather predictions in the upper troposphere. The primary mission for this aircraft is providing NOAA with hurricane-surveillance data from atmospheric soundings in the environment surrounding the storm. These data increase the accuracy of computer models used to predict storm tracks. Other missions include data collection for winter-storm research and prediction and clear-air-turbulence research. Instrumentation includes: pressure, temperature, humidity, and navigation sensors; downward-looking radiometer; Global Positioning System (GPS) dropwindsonde; and data-collection systems.
- Dehavilland DHC-6 Twin Otters – N46RF, N48RF and N57RF - The Twin Otters are used to support the Northeast Right Whale Early Warning System and population surveys along the East Coast. They are also used for air-chemistry research, coastal mapping, remote sensing, hurricane-damage assessment, ozone research, Alaska cetatean population studies and other marine mammal surveys, and logistic support. A fourth Twin Otter was purchased in FY 2006 in accordance with the aircraft modernization plan. Instrumentation includes: Observation bubble ports; nose mount for video camera; belly-camera observation port; multiple instrument ports; and satellite communication.
- Lake Seawolf - N64RF - This amphibious aircraft has extended range with external fuel tanks. Bubble windows provide excellent visibility for aerial surveys. This aircraft will be disposed of in FY 2007.
- Cessna Citation II - N52RF - This aircraft is used primarily for instrumentation research and development and to obtain precision aerial, multi-spectral imagery, photography, and survey operational data in support of NOAA's Nautical Charting, Coastal Mapping, and Airport Obstruction programs. Airport obstruction surveys are necessary for flight safety and result in changes to the digital displays of the Federal Aviation Administration (FAA). Additionally, the Citation II flies for storm profiling, post-flood photography, environmental monitoring of the nation's coral-reef systems and natural disaster-damage assessment. Instrumentation includes: dual-mapping camera systems in a modified, pressurized cabin. The unique side-by-side camera layout allows two different film emulsions to be exposed simultaneously in order to determine the height of objects in the photographs. A high-precision GPS receiver allows centimeter accuracy with the use of a different GPS site.

- AC-500S Shrike Commander - N47RF and N51RF - The Shrike Commander is a light, twin-engine aircraft. N47RF is used to support aerial surveys and remote sensing of the national marine sanctuaries. In addition, NOAA uses this aircraft to support the FAA Flight Edit program. The Flight Edit program produces navigation tools that are necessary for flight safety throughout the United States. N51RF is used to conduct snow-water-equivalent surveys throughout the northern U.S. and southern Canada. Sensors aboard the aircraft measure the amount of gamma radiation attenuated by water molecules contained in snow cover. Instrumentation includes: modern navigation equipment; high-capacity, electrical output-capability, precision aerial camera system; and a gamma ray spectrophotometer.
- AC690A Turbo Commander - N45RF - The Turbo Commander supports the Snow Survey program and aerial photography for NOAA's Nautical Charting, Coastal Mapping, and Airport Obstruction programs. Instrumentation includes: Precision aerial camera system and gamma ray spectrophotometer used for Airborne Snow Survey.

The following table provides information on the aircraft fleet for the current program (missions and support fluctuate based on program priorities):

<b>Aircraft</b>	<b>Type</b>	<b>Mission</b>	<b>Location</b>
<b>HEAVY:</b>			
(3) Lockheed WP-3D	4-engine turbo prop	Atmospheric research (OAR) Hurricane reconnaissance (NWS) Ocean winds (NESDIS)	MacDill AFB, FL
<b>MID:</b>			
(1) Gulfstream G-IVSP	2-engine turbo jet	Hurricane surveillance (NWS) Winter storm reconnaissance (NWS)	MacDill AFB, FL
<b>LIGHT:</b>			
(4) Dehavilland Twin Otter DHC-6	2-engine turbo prop	Aerial surveys (NMFS) Atmospheric research (OAR) Coastal ecology remote sensing (NOS)	MacDill AFB, FL
Lake Seawolf Amphibian	1-engine reciprocating	Aerial surveys/training (sanctuary support)	Santa Barbara, CA
Cessna Citation II	2-engine turbo jet	Photogrammetry (NOS) High altitude atmospheric research (OAR)/multi-spectral scanner (NOS)	Silver Spring, MD
Rockwell Shrike Commander/AC500S	2-engine reciprocating	Snow survey (NWS) photogrammetry (NOS) aerial surveys/remote sensing sanctuary support (NOS)	Minneapolis, MN (N51RF) MacDill AFB, FL (N47RF)
Jet Prop Commander AC/695	2-engine turbo prop	Snow survey (NWS)	Minneapolis, MN

Base activities support both objectives under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”



**PROPOSED LEGISLATION:**

None.

### SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Aviation Operations					
Aircraft Services	18,334	20,916	18,547	19,227	680
<b>TOTAL</b>	18,334	20,916	18,547	19,227	680
FTE	107	102	102	102	-

Note: The dollars in this table represent budget authority.

#### PROGRAM CHANGES FOR FY 2007:

**G-IV Instrumentation Support (0 FTE and \$680,000):** NOAA requests 0 FTE and \$680,000 for a total of 102 FTE and \$19,227,000 to support the G-IV instrumentation upgrade. The NOAA G-IV aircraft is being modified by adding extensive instrumentation in order to provide data to the National Weather Service (NWS) Hurricane Weather Research and Forecasting (HWRF) computer model as provided in both the FY 2005 and 2006 Hurricane Supplementals. Funding for the instrumentation upgrade did not include ongoing support, operation, and data analysis. Required support includes an in-flight data operator, personnel for data quality control, and data assimilation for the HWRF model. Of the requested increase, \$320,000 will provide for maintenance, repair, and continued modification of new sensors and systems. The amount of \$120,000 will support OAR's Science and Technology Infusion Program within Atlantic Oceanographic and Meteorology Laboratory/Hurricane Research Division, providing operational support of Hurricane Weather Research and Forecasting, data missions, and continued software development of data flow subsystems. The amount of \$240,000 will ensure the real-time data delivery, formatting, assimilation, and quality control of observations from the aircraft in support of NWS' National Center for Environmental Prediction/Environmental Modeling Center Environmental Modeling Program.

The FY 2005 hurricane supplemental provided \$3,500,000 in PAC funds; however, no ORF funding for support was provided. The supplemental funds and the instrumentation funds previously appropriated provide the instrumentation and airframe modifications required to gather the data. This FY 2007 request provides the operational and maintenance support required to operate and maintain the instrumentation on the aircraft, to process and transmit the data from the aircraft, and to receive, quality control, format, and submit the data for assimilation into the HWRF model. These activities involve personnel from AOML Hurricane Research Division to process the data on the aircraft, from the NMAO Aircraft Operations Center to maintain and operate the instrumentation on the aircraft, and from the NWS National Center for Environmental Prediction to receive, quality control, format, and assimilate the data into the HWRF model.

This will be an ongoing operational requirement that will continue every year during the hurricane season as the G-IV flies hurricane missions. This is a new data stream required by the new HWRF numerical model produced by the new instrumentation acquired by the PAC-funded G-IV instrumentation upgrade.

### **Statement of Need**

Funding was provided in the PAC account from FY 2003 through FY 2005 to provide an instrumentation upgrade on the NOAA G-IV aircraft to measure and transmit data defining the three-dimensional windfields in the vortex of developing hurricanes. The \$680,000 request will leverage the instrumentation upgrades that were installed using FY 2003 and FY 2004 funds. The support requested in the ORF account will provide the personnel required on the aircraft to operate and maintain the instrumentation and to provide data editing and quality control of the data prior to its transmission. It also provides personnel at the National Center for Environmental Prediction for reception of the data and the assimilation of the data into the numerical models. Past requests for funding included only PAC funding for the acquisition of the instrumentation and modification of the aircraft to carry it. FY 2007 will be the first year that the instrumentation will be available for use during evaluation and testing of the HWRF model and, therefore, the first year that operational support positions are required. The HWRF model is scheduled to be operational in FY 2008, so support staff is required in FY 2007 in order to perform operational testing and evaluation during the hurricane season in FY 2007. The data will be acquired during hurricane season each year, and in order to operate the new HWRF numerical model, the data acquired must be processed, transmitted, received, and assimilated into the HWRF model. This will require the additional personnel to perform these tasks.

### **Proposed Action**

NOAA proposes hiring support staff at the beginning of FY 2007 for the operational test and evaluation of the new G-IV instrumentation and in preparation for the operational implementation of the Hurricane Weather Research and Forecasting model. NOAA also proposes maintaining the instrumentation on board the G-IV and funding the annual calibrations of the hurricane instrumentation in out years.

### **Benefits**

Data from the G-IV instrumentation will be included in the Hurricane Weather Research and Forecasting numerical model, resulting in an improvement in the intensity forecasting of hurricanes.

### **Performance Goals and Measurement Data**

This increase will support the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically this increase supports the NOAA Weather and Water Strategic Goal, the following performance measure and specifically the objectives,

“Increase lead time and accuracy for weather and water warnings and forecasts” and “improve predictability of the onset, duration, and impact of hazardous and severe weather and water events”. It will provide support towards the accomplishment of the performance goal to improve hurricane forecast error at 48 hours. The data gathered and processed on the aircraft and subsequently transmitted to the National Center for Environmental Prediction will describe the three-dimensional windfield of the developing hurricane vortex. These data will be included in the Hurricane Weather Research and Forecasting numerical model and will be essential toward the initialization of the hurricane intensity forecast model runs.

<b>Performance Goal: Supports Weather and Water NOAA Performance Goal G-IV Instrumentation FTES</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>
Without Increase	N/A	N/A	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*
With Increase	N/A	N/A	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*

\* Hurricane Weather Research and Forecasting numerical model

**Subactivity: Marine Operations & Maintenance and Aviation Operations**  
**Line Item: Future Healthcare Benefits for Current Officers**

**GOAL STATEMENT:**

The objective of this line item is to fund NOAA's contribution to a healthcare accrual fund for NOAA Corps officers. The accrual fund pays for the future healthcare benefits for current officers once they retire and become Medicare-eligible, as well as for their dependents and annuitants. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

**BASE DESCRIPTION:**

The FY 2003 Department of Defense Authorization Act requires all uniformed services including NOAA to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future healthcare benefits of present, active-duty NOAA officers and their dependents and annuitants.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

**PROPOSED LEGISLATION:**

None.

### SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Future Healthcare Benefits for Current Officers					
Future Healthcare Benefits for Current Officers	1,914	1,984	2,012	-	(2,012)
<b>TOTAL</b>	1,914	1,984	2,012	-	(2,012)
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

#### PROGRAM CHANGES FOR FY 2007:

The NOAA Corps supports the fleet and NOAA Line Offices as well. This lineitem funds the majority of the NOAA Corps payroll, including salary and benefits for current active duty officers. In previous years, funds were also requested in this account for contributions to an accrual fund for future health care benefits for officers, including dependents and annuitants, who retire and become Medicare-eligible, as mandated in the FY 2003 Defense Authorization Act, P.L. 107-314. However, the Ronald W. Reagan National Defense Authorization Act for 2005 (P.L. 108-375) provided permanent, indefinite appropriations to finance these costs for all uniformed service members. As such, appropriations for these costs are no longer requested in this account. However, as these costs are borne in support of NOAA's mission, they continue to be shown as part of the NOAA discretionary total.